Department of Energy

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SEP 12 2000

Mr Steve Gunderson
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Denver, Colorado 80246-1530

Mr Tim Rehder
Rocky Flats Team Lead
United States Environmental Protection Agency, Region VIII
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Dear Mr Gunderson and Mr Rehder

The purpose of this letter is to provide notification of water-quality monitoring results at the Rocky Flats Cleanup Agreement (RFCA) Point of Evaluation (POE) surface-water monitoring location SW027, which is located in the South Interceptor Ditch (SID) upstream of the lower C series terminal pond (Pond C-2) in the Woman Creek basin Calculated 30-day moving averages for plutonium first triggered the reporting requirements under RFCA Attachment 5, Section 2 4 (B) on June 26, 2000 Reportable 30-day moving values are summarized in Table 1 The validated analytical results for the composite samples that contributed to the 30-day average calculation are summarized in Table 2 Americium did not exceed reportable concentrations for these monitoring periods

Table 1 - Calculated 30-Day Average Value at RFCA POE Monitoring Location SW027

Analyte	Date of Reportable Value	Reportable 30-day Avg. Values (pCi/L)
Plutonium	6/26/00 (Initial Reportable Date)	0 173
Plutonium	6/27/00	0 209
Plutonium	6/28/00	0 211
Plutonium	6/29/00	0 244

Table 2 – Validated Analytical Results for Composite Samples Collected at SW027

Analyte	Composite Sample Period (Starting and Ending Dates)	Composite Sample Validated Analytical Results (pCi/L)
Plutonium	10/21/99 – 3/29/00	0 011
Plutonium	3/30/00 – 5/10/00	0 014
Plutonium	5/11/00 – 7/16/00	1 030

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Please note the end date for this reportable event (elevated 30-day moving average values for plutonium) cannot be determined until validated analytical results from the July 17, 2000, composite sample have been received

RFCA Reporting Protocol

To meet the Rocky Flats Environmental Technology Site (Site) RFCA commitment, the Department of Energy (DOE) must transmit this information to the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) within the 15-day reporting period, which ends September 12, 2000 In addition, RFCA also requires that the DOE, within 30 days of gaining knowledge of the reportable results, submit to EPA and CDPHE a source evaluation plan and schedule addressing this reportable value This plan must be transmitted by September 27, 2000 This letter serves as notification and a separate letter report will be issued to fulfill the RFCA requirement for source evaluation

Downstream Water Quality Monitoring

Water flowing through SW027 during this period is currently detained in Pond C-2 that receives storm water runoff from the SID Pond C-2 has been accumulating SID runoff since last discharged during June 1999 Although SID stormwater runoff has been isolated in Pond C-2 since summer 1999, analytical data from RFCA POCs GS01 (Woman Creek and Indiana Street) were also examined The 30-day moving averages for plutonium at GS01 were below 0 15 pCi/l standard for all periods of flow since summer 1999

Previous SW027 Source Evaluation Findings and Conclusions

The RFCA reportable values for plutonium were first observed at RFCA POE SW027 during summer 1998 (for the period May 5, 1998, through August 6, 1998) The RFCA required notifications were made and a source evaluation plan prepared, *Source Evaluation Plan for RFCA POE SW027* As the first source evaluation for the SID drainage, a comprehensive source evaluation plan was prepared to evaluate historical data, assess Site activities, and review monitoring programs Planned activities included a continuation of RFCA monitoring at SW027 and GS31, a walk-down of the SW027 drainage area to visually identify conditions which may indicate source areas, reassessment of legacy and automated surface water monitoring data, reviews of published characterization and monitoring reports, gamma spectroscopy information, soil and sediment information, groundwater data, evaluation of Site project activities, watershed improvements, the Historical Release Reports, an assessment of radiochemistry quality assurance, and consultation with the Actinide Migration Study

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team Results of this source investigation were summarized in the *Source Evaluation Report for Point of Evaluation SW027*, Revision 0, October 1998 The report concluded that diffuse radionuclide contamination from past Site operations, particularly from the 903 Pad was the most likely source of contamination observed at SW027 The report contained no specific recommendations for source control since water quality downstream of SW027 indicated that the passive settling in Pond C-2 is extremely effective at removing radionuclides from the water column

Recent Results from the Actinide Migration Evaluation (AME) Modeling Project

The goal of the AME Modeling Project is to estimate and quantify short term and long term actinide loading rates to surface water under a range of climatological and environmental conditions that may occur at the Site After three years of Water Erosion Prediction Project erosion and actinide transport modeling, the AME recently published the *Report on Soil Erosion/Surface Water Transport Modeling for the Actinide Migration Evaluation at RFETS* One of the major conclusions of this report is that actinide source areas in the 903 Pad and Lip Area and the SID watershed from the 903 Pad Area east to Pond C-2 have the potential to impact surface water quality due to erosion and sediment transport The soil actinide concentration adjusted model results for 10-year and 100-year storms in the SID watershed could cause surface water concentrations above the current surface water Action Level of 0 15 pCi/L in at least some portion of the SID

Recommendation

During the 1998 review of Site activities (i e , Decontamination and Decommissioning, environmental remediation projects, excavations, or other routine operations) for the SW027 source evaluation, none of the activities were found to contribute to increased contamination and reportable values We will review Site activities that were conducted during the sampling period, but because of the repetitive and predictable nature of this event we expect no new conclusions

In consideration of past source evaluation findings and conclusions, the Site proposes the following in response to these reportable values at SW027

(1) Prepare a data summary and issue a letter report upon conclusion of this reportable event The final data summary will be prepared when validated analytical results for all samples that define the reportable event are available The SID flow data for storm event(s) associated with the reportable period will be evaluated to determine whether remobilization of contaminated SID sediments would have been sufficient to cause these reportable values Data interpretation will be supplemented with a brief review of Site activities

(i e , shift superintendent reports) during the reportable period to reaffirm findings and conclusions of the October 1998 *Source Evaluation Report for Point of Evaluation SW027* If findings and conclusions of the letter report suggest a new investigation is warranted, then a source evaluation plan will be prepared and a new source evaluation conducted

(2) Continuation of existing monitoring at SW027

If you have any questions regarding this transmittal, please contact me at (303) 966-5918

Sincerely,

Joseph A Legare
Assistant Manager
for Environment and Infrastructure

cc
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CERCLA Administrative Record
RFCA file